Land Reclamation Information System

User Guide

Mapping Sites

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Mapping a New Site

After logging into LRIS, you will be directed to the Land Reclamation Information System (LRIS) home page. The home page is where your permits are listed.

To map a new in-stream or open pit site, proceed with the following steps:

If you have questions or need assistance, please call the Land Reclamation Program at 573-751-4041.

1. Mapping an Open Pit Site

1.1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab Permitted Sites on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

1.2. Select the "Mapping" button. Mapping

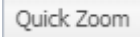   1.2.1. Tip: If the map is taking a while to load try refreshing the page.

1.3. There are several ways to zoom in to a general location to map your site.

    1.3.1. The grey navigation bar has a select county, city or zip code option.


    1.3.2. On right hand side of screen there is a "Quick Zoom" tab Quick Zoom which contains the navigation instructions with the ability to zoom via UTM, latitude/longitude, PLSS or land-grant.
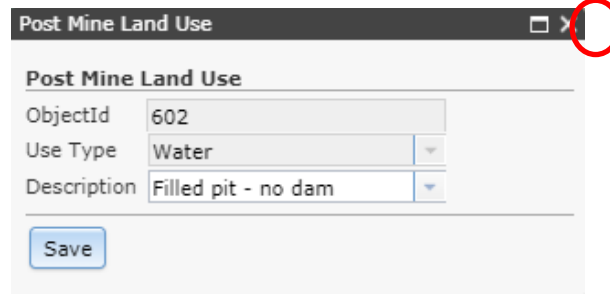
1.4. Once you have zoomed in to the map far enough, the "Editing Tools" and "Instructions" will be displayed.

1.5. Continue to zoom as appropriate to get to the right scale for your mine site.

1.6. Select the "Property Boundary" feature to draw. This is an optional feature and does not have to be completed. This would be the property the company owns or a collective area of all the properties leased by the company.

1.7. Select the "Mine Plan Boundary" feature. This is the long term boundary of the site.

1.8. Select the "Permitted Boundary" feature. This is the area where overburden will be removed or placed for the site. (This is the bonded acreage.) Draw inside of the "Mine Plan Boundary" feature.

1.9. Select the "Post Mine Land Use" feature(s) as appropriate for your reclamation plan of the site. This is the approximate acreage and location of the end land use types for reclamation purposes. Draw inside of the "Mine Plan Boundary" feature.

1.9.1. Once an end land use is drawn, a "Detailed Description" must be selected. Click on the line of the "Post Mine Land Use" feature(s) until a pop-up box appears.

Select the "Description" and then the "Save" button. ⬚Save⬚ To close this pop-up box, select the "X" on the pop-up.

1.10. Select the "Site Entrance" feature. This is where the main access road to the site is located.

1.11. Select the "Site Outfall" feature. This is the approximate location of outfalls of the site for inspection purposes. Multiple outfalls can be placed.

1.12. Once done editing your map, it may look something like this.
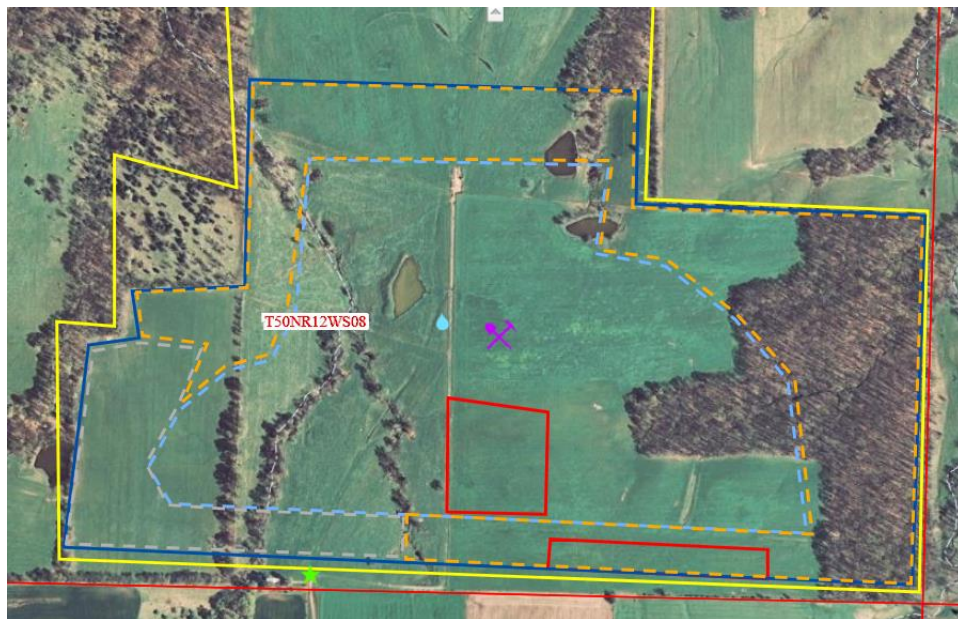
1.13. To complete the editing for the map, select the "Mapping Complete" button.

2. Mapping an In-Stream Site

2.1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.
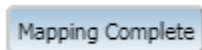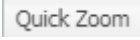
2.2. Select the "Mapping" button.

    2.2.1. Tip: If the map is taking a while to load try refreshing the page.

2.3. There are several ways to zoom in to a general location to map your site.

    2.3.1. The grey navigation bar has a select county, city or zip code option.

    2.3.2. On right hand side of screen there is a "Quick Zoom" tab which contains the navigation instructions with the ability to zoom via UTM, latitude/longitude, PLSS or land-grant.

2.4. Once you have zoomed in to the map far enough, the "Editing Tools" and "Instructions" will be displayed.
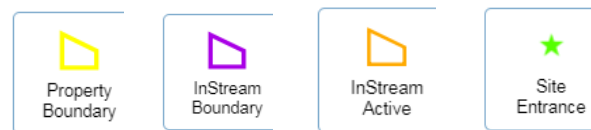
2.5. Continue to zoom as appropriate to get to the right scale for your mine site.

2.6. Select the "Property Boundary" feature to draw. This is an optional feature and does not have to be completed. This would be the property the company owns or a collective area of all the properties leased by the company.

2.7. Select the "Instream Boundary" feature. This is the long term boundary of the site.

2.8. Select the "Instream Active" feature. This is the area where excavation will occur for the site. Draw inside of the "Instream Boundary" feature.

2.9. Select the "Site Entrance" feature. This is where the main access road to the site is located.

2.10. Once done editing your map, it may look something like this.

2.11. To complete the editing for the map, select the "Mapping Complete" button.

Mapping Complete

Land Reclamation Information System User Guide

Mapping – Mapping an Amendment

Contents

Mapping an Amendment

To increase the permitted acreage of your site you will need to apply for a permit amendment to the site. This does not increase the long term boundary of the site, only where the active mining is occurring within an approved long term boundary.

To map added acreage for a permit amendment to a site, proceed with the following steps:

If you have questions or need assistance, please call the Land Reclamation Program at 573-751-4041.

1. Mapping an Amendment – Open Pit Site

1.1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab **Permitted Sites** on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

1.2. Select the "Mapping" button. **Mapping**

    1.2.1. Tip: If the map is taking a while to load try refreshing the page.

1.3. The map will automatically zoom into the area of the site at the best scale.

1.4. If needed, zoom in further to the site for the "Editing Tools" and "Instructions" to be displayed.

1.5. Select the "Added Acres" feature to draw. This is the area where overburden will be removed or placed for the site. (This is the bonded acreage.) Draw inside of the "Mine Plan Boundary" feature.

1.6. Once you are finished editing your map, it may look something like this:

1.7. To complete the editing for the map, select the "Mapping Complete" button.

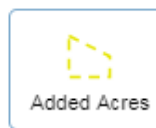**Mapping Complete**

2. Mapping an Amendment – In-Stream Site

2.1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab `Permitted Sites` on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

2.2. Select the "Mapping" button. `Mapping`

    2.2.1. Tip: If the map is taking a while to load try refreshing the page.

2.3. The map will automatically zoom into the area of the site at the best scale.

2.4. If needed, zoom in further to the site for the "Editing Tools" and "Instructions" to be displayed.
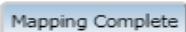

2.5. Select the "Added Acres" feature to draw. This is the area where excavation will occur for the site. Draw inside of the "Instream Boundary" feature.

2.6. Once you are finished editing your map, it may look something like this:

2.7. To complete the editing for the map, select the "Mapping Complete" button.

`Mapping Complete`

Land Reclamation Information System

User Guide

Mapping – Mapping an Expansion

Contents

Mapping an Expansion

To increase the long term operational boundary of your site, you will need to apply for a permit expansion to the site. During this process the post mining land uses can be changed and the permitted acreage of your site can be increased.

To map changes to the long term boundary and potentially increasing your permitted acreage for a permit expansion to a site, proceed with the following steps: If you have questions or need assistance, please call the Land Reclamation Program at 573-751-4041.

1. Mapping an Expansion – Open Pit Site

1.1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab **Permitted Sites** on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

1.2. Select the "Mapping" button. **Mapping**

    1.2.1. Tip: If the map is taking a while to load try refreshing the page.

1.3. The map will automatically zoom into the area of the site at the best scale.

1.4. If needed, zoom in further to the site for the "Editing Tools" and "Instructions" to be displayed.
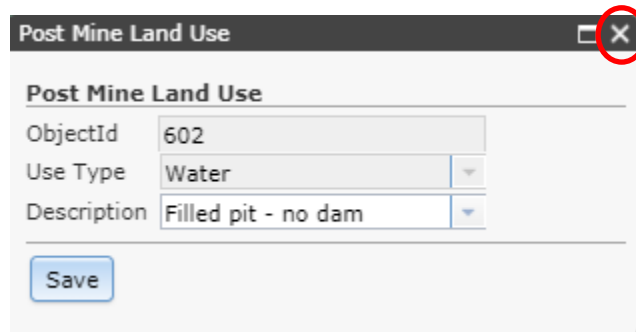
1.5. The current "Mine Plan Boundary" can be redrawn by double clicking the "Mine Plan Boundary" feature (blue line) in the map. Moving the grey corner will move the corner of the polygon, moving a white circle will create a new corner. Once the "Mine Plan Boundary" feature has been reshaped, double click on the line of the feature to stop editing. An additional "Mine Plan Boundary" polygon can be added by selecting the "Mine Plan Boundary" in the "Editing Tools".
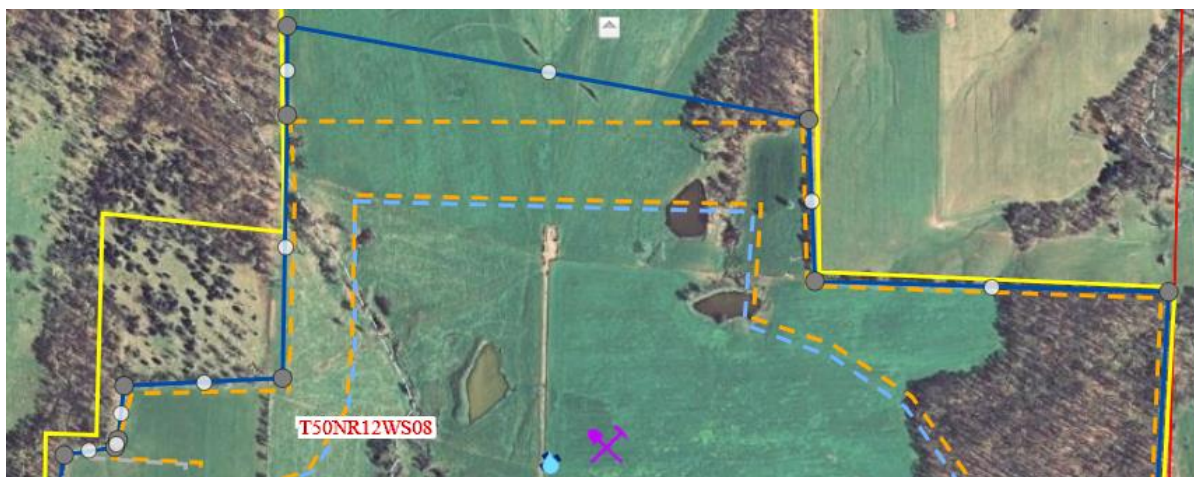
1.6. The "Property Boundary" (yellow line) can be redrawn in the same way, by double clicking on the line and editing the corners.

1.7. The "Post Mine Land Use" feature(s) can be either redrawn or new polygons added to the map. The detailed description for the "Post Mine Land Use" feature(s) can also be updated.

    1.7.1. If new "Post Mine Land Use" feature(s) are added or you are updating the "Post Mine Land Use", the "Detailed Description" will need to be completed.

    1.7.2. Click on the line of the "Post Mine Land Use" feature until a pop-up box appears. Select the "Description" and then the "Save" button. To close this pop-up box, select the "X" on the pop-up.

1.8. The "Site Entrance" can be relocated by deleting the original point (ALT key and click on the "Site Entrance" in the "Editing Tools") and placing where needed.

1.9. The "Site Outfall" can be relocated by deleting the original point (ALT key and click on the "Site Outfall" in the "Editing Tools") and placing where needed. New "Site Outfall" can be added by selecting the feature in the "Editing Tools".

1.10. There will be dashed lines and blue X's present after redrawing the map. This indicates where the features were drawn prior to edits.

1.11. The "Added Acres" feature can be drawn if you wish to increase the area where overburden will be removed or placed for the site. (This is the bonded acreage.) Draw inside of the "Mine Plan Boundary" feature.

1.12. Once you are finished editing your map, it may look something like this:

T50NR12WS08

Added Acres

1.13. To complete the editing for the map, select the "Mapping Complete" button.

Mapping Complete

2. Mapping an Expansion – In-Stream Site

2.1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab [Permitted Sites] on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

2.2. Select the "Mapping" button. [Mapping]

    2.2.1. Tip: If the map is taking a while to load try refreshing the page.

2.3. The map will automatically zoom into the area of the site at the best scale.

2.4. If needed, zoom in further to the site for the "Editing Tools" and "Instructions" to be displayed.

2.5. The current "Instream Boundary" can be redrawn by double clicking the "Instream Boundary" feature (purple line) in the map. Moving the grey corner will move the corner of the polygon, moving a white circle will create a new corner. Once the "Instream Boundary" feature has been reshaped, double click on the line of the feature to stop editing.

2.6. The "Property Boundary" (yellow line) can be redrawn in the same way, by double clicking on the line and editing the corners.

2.7. The "Site Entrance" can be relocated by deleting the original point (ALT key and click on the "Site Entrance" in the "Editing Tools") and placing where needed.

2.8. There will be dashed lines and blue X's present after redrawing the map. This indicates where the features were drawn prior to edits.

2.9. The "Added Acres" feature can be drawn if you wish to increase the area where excavation will be occurring at the site. Draw inside of the "Instream Boundary" feature.

2.10. 	Once you are finished editing your map, it may look something like this:

2.11. 	To complete the editing for the map, select the "Mapping Complete" button.

Mapping Complete

Land Reclamation Information System

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Mapping – Mapping a Revision

Contents

Mapping a Revision

To revise the methods of operations or reclamation as submitted in the original mine plan, you will need to apply for a permit revision to the site. The post mining land uses can be updated during a revision. If the long term mine plan boundary of the site needs to be reduced for any reasons, contact the Land Reclamation Program to update the boundary.


To map changes to the post mining land uses during a permit revision to a site, proceed with the following steps:

If you have questions or need assistance, please call the Land Reclamation Program at 573-751-4041.

1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab **Permitted Sites** on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

2. Select the "Mapping" button. **Mapping**

   2.1. Tip: If the map is taking a while to load try refreshing the page.

3. The map will automatically zoom into the area of the site at the best scale.

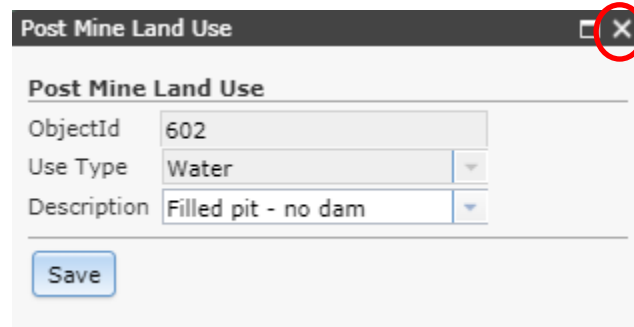4. If needed, zoom in further to the site for the "Editing Tools" and "Instructions" to be displayed.

Click each Post Mining Land Use (PLMU) polygon to select a detailed description of the PMLU type and save.

Post Mine Land Use

Agriculture   Development

Water
Impoundmen
ts   Wildlife
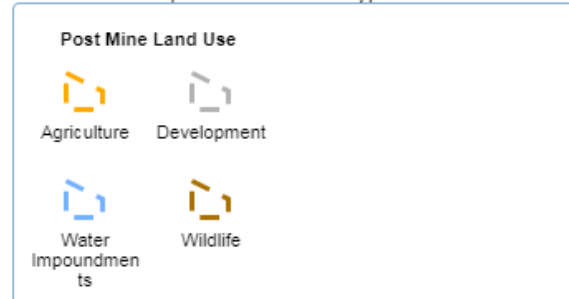
5. The "Post Mine Land Use" feature(s) can be either redrawn or deleted and new polygons added to the map.

   5.1. The current "Post Mine Land Use" feature(s) can be redrawn by double clicking the "Post Mine Land Use" feature(s) in the map. Moving the grey corner will move the corner, moving a white circle will create a new corner. Once the "Post Mine Land Use" feature(s) has been reshaped, double click on the line of the feature to stop editing.

6. If new "Post Mine Land Use" feature(s) are added or you are updating the "Post Mine Land Use", the "Detailed Description" will need to be completed.

7. Click on the line of the "Post Mine Land Use" feature until a pop-up box appears. Select the "Description" and then the "Save" button. Save To close this pop-up box, select the "X" on the pop-up.

8. Once you are finished editing your map, it may look something like this:

9. To complete the editing for the map, select the "Mapping Complete" button.

Mapping Complete

Note: If the long term mine plan boundary will be reduced, draw the post mining land uses as necessary and contact the Land Reclamation Program at 573-751-4041 to update the mine plan boundary once the permit application is submitted.

Land Reclamation Information System

User Guide
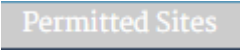
Mapping – Mapping a Bond Release Request

Contents

Mapping a Bond Release Request

To release the permitted acreage of your site a Request for Approval of Reclaimed Land will need to be submitted. This is a bond release request to reduce the permitted acreage of the site. A bond release request can be a partial or full release of a site.


To map acreage to request a reduction in bonded acres to a site, proceed with the following steps:

If you have questions or need assistance, please call the Land Reclamation Program at 573-751-4041.
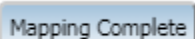
1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab Permitted Sites on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

2. Select the "Mapping" button. **Mapping**

    2.1. Tip: If the map is taking a while to load try refreshing the page.

3. The map will automatically populate into the area of the site at the best scale.

4. If needed, zoom in further to the site for the "Editing Tools" and "Instructions" to be displayed.

Bond
Release
Boundary

5. Select the "Bond Release Boundary" feature to draw. This is the area of permitted acres (bonded acreage) which has been reclaimed as approved in the mine plan or it can also be bonded acres never affected by mining. Draw inside or the same area as the "Permitted Boundary" feature.

6. Once you are finished editing your map, it may look something like this:
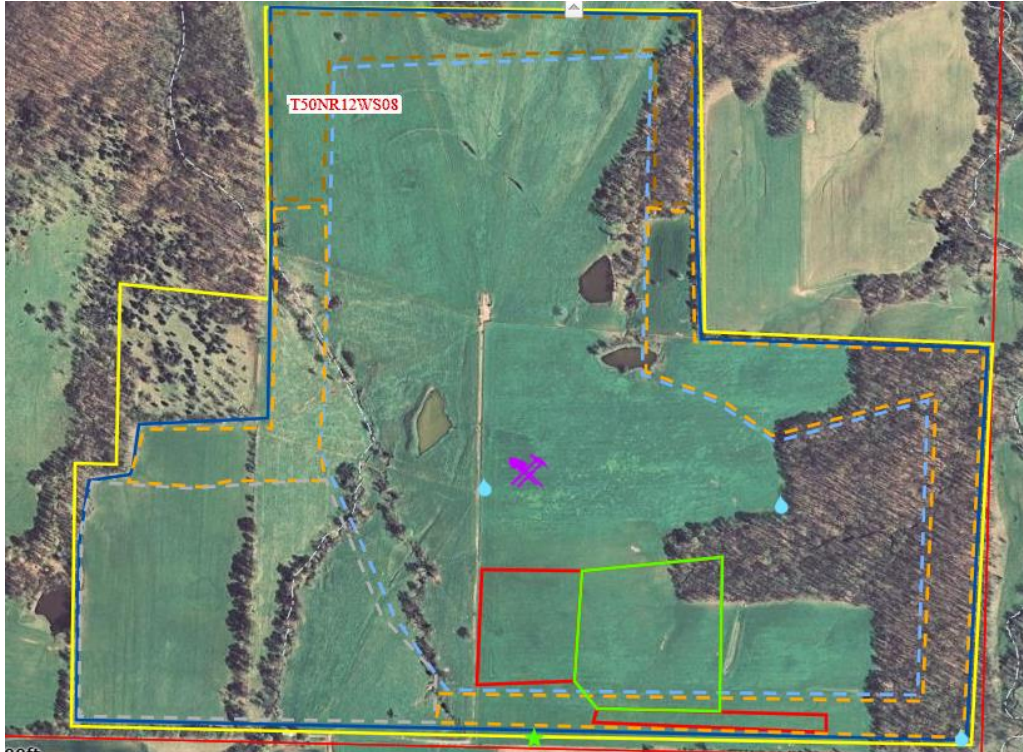
7. To complete the editing for the map, select the "Mapping Complete" button.

Mapping Complete

Land Reclamation Information System

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Mapping – Mapping a Renewal for In-Stream Site

Contents

Mapping a Renewal for In-Stream Site

Industrial mineral permits must be renewed annually at the time of or prior to the permit expiration date. In-stream sites which will be mined during the coming permit year must be permitted during the permit renewal and have the acreage which will be mined confirmed by mapping.
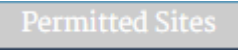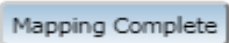

To map the acreage for an in-stream site at permit renewal, proceed with the following steps:

If you have questions or need assistance, please call the Land Reclamation Program at 573-751-4041.

1. Navigate to the "Site Details" page to access the "Mapping" button. Select the "Permit Number" (hyperlink), then select the "Permitted Sites" tab **Permitted Sites** on the secondary grey navigation bar, and finally select the "Site Name" (hyperlink) on the "Site List" page.

2. Select the "Mapping" button. **Mapping**

     2.1.1   Tip: If the map is taking a while to load try refreshing the page.

3. The map will automatically zoom into the area of the site at the best scale.

4. If needed, zoom in further to the site for the "Editing Tools" and "Instructions" to be displayed.

InStream Active

5. If the mining area will be the same as the previous year and there are no changes to the map, select the "Mapping Complete" button. **Mapping Complete**

6. If changes are needed for the coming permit year, the "In-stream Active" feature can either be redrawn or deleted and a new "In-stream Active" feature polygon added to the map.

    6.1. The current "In-stream Active" can be redrawn by double clicking the "In-stream Active" feature (orange line) in the map. Moving the grey corner will move the corner, moving a white circle will create a new corner. Once the "In-stream Active" feature has been reshaped, double click on the line of the feature to stop editing.

7. Once you are finished editing your map, it may look something like this:

8. There may be dashed lines present if the "In-stream Active" feature was redrawn in the map. This indicates where the feature was drawn prior to edits.

9. To complete the editing for the map, select the "Mapping Complete" button.

Mapping Complete